Not Recommended for New Installations.
Please contact Technical Support for more information.

Parallel Printer Card

Model PIOC

Documentation Number PIOC2595

This product
Designed and Manufactured
In Ottawa, Illinois
USA
of domestic and imported parts by

B&B Electronics Mfg. Co. Inc.
707 Dayton Road -- P.O. Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105

Internet:
http://www.bb-elec.com
orders@bb-elec.com
support@bb-elec.com

Overview

The Parallel Printer Card (Model PIOC) is a bi-directional parallel port for a standard IBM PC or compatible. The PIOC is single port card that can be used as a printer interface or as a general input/output port for any device. The base port address of the card can be set for any address from 0 to 3FC hexadecimal. This allows the card to be located at the standard parallel port addresses, as well as any other unused address.

The PIOC can have up to 12 digital TTL compatible outputs and up to 17 digital TTL compatible inputs. 12 of these inputs and outputs share connector pins so you cannot have 12 inputs and 17 outputs at the same time. The input/output lines are available through a female DB-25 connector.

To understand how the PIOC can be used you must first understand how the IBM PC parallel port works from inside the computer. Each parallel port has one main port address for outputting data, the Base Register. The next two addresses above that address are used for handshaking control. The first address is the Status Register, and the second address is the Control Register. For instance, on a typical computer LPT1 might be located at hexadecimal address 378h, which is the Base Register. The Status Register will be located at 379h and the Control Register will be located at 37Ah. Table 1 shows the functions of each pin on the DB-25 connector when the PIOC is connected to a printer.

Table 1 - Printer Functions

PIOC DB-25 Connector	Printer Function
1	Strobe
2	Data Bit 1
3	Data Bit 2
4	Data Bit 3
5	Data Bit 4
6	Data Bit 5
7	Data Bit 6
8	Data Bit 7
9	Data Bit 8
10	Acknowledge
11	Busy
12	Paper End
13	Select
14	Auto Feed
15	Error
16	Initialize Printer
17	Select Input
18 - 25	Ground

Setting the Address

The base address of the PIOC is set using a eight-position DIP switch, SW1. The eight positions correspond to the I/O address lines of A2 through A9 (see Table 2). If you set the a switch OFF the corresponding I/O address line will be a ZERO and if you set it ON the corresponding I/O address line will be a ONE. The factory default address setting is 378h. To set the card to the 378h address you must set A2 and 7 OFF and A3, 4, 5, 6, 8, and 9 ON. Table 3 shows the settings for LPT1 and LPT2.

B&B Electronics -- PO Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105

Table 2 - DIP Switch Functions

SW1	I/O Address
1	A9
2	A8
3	A7
4	A6
5	A5
6	A4
7	A3
8	A2

Table 3 - DIP Switch Weights

SW1	1	2	3	4	5	6	7	8	X	X
Address:	A9	A8	A7	A6	A5	A4	A3	A2	A1	A0
Weight:	2	1	8	4	2	1	8	4	2	1
LPT1 (378h):	1	1	0	1	1	1	1	0	0	0
LPT2 (278h):	1	0	0	1	1	1	1	0	0	0

NOTE: A "1" indicates that the switch is ON and a "0"indicates that the switch is OFF.

Table 4 - Hardware I/O Map of AT Class Machines

Hex Address	Address Function in AT Class Machines
000-01F	DMA controller #1 (8237A-5)
020-03F	interrupt controller #1 (8259A)
040-05F	timer (8254)
060-06F	keyboard (8042)
070-07F	NMI - non maskable interrupt & CMOS RAM
080-09F	DMA page register (74LS612)
0A0-0BF	interrupt controller #2 (8259A)
0C0-0DF	DMA controller #2 (8237A)
0F0-0FF	80287 math coprocessor
1F0-1F8	hard disk
200-20F	game port joystick controller
258-25F	Intel Above Board
278-27F	parallel printer port 2
2E8-2EF	COM4 serial port
2F8-2FF	COM2 serial port
300-31F	prototype card
378-37F	parallel printer 1
380-38F	SDLC or bisynch com 2
3A0-3AF	bisynch com 1
3B0-3BF	MDA - monochrome adapter
3BC-3BE	parallel printer on monochrome adapter
3C0-3CF	EGA - reserved
3D0-3D7	CGA - color graphics adapter
3E8-3EF	COM 3 serial port
3F0-3F7	floppy diskette controller
3F8-3FF	COM1 serial port

Any four byte space not listed in Table 4 and not used by any other equipment in your system may be used for the parallel port. Appendix A shows all the possible addresses and their settings.

B&B Electronics -- PO Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105

Using the PIOC as I/O

The PIOC may also be used as a general I/O device. The Base Register has eight bi-directional lines. The direction of these lines is based on bit 5 of the Control Register. If bit 5 of the Control Register is a “1”, then the lines of the Base Register are defined as inputs. If bit 5 of the Control Register is a “0”, then these lines are defined as outputs (this is default state after “boot up”). If the Base Register is being used as outputs, the states of the lines can be changed by writing (outputting) to the Base Register. The states of these lines can be determined by reading (inputting) the Base Register. Writing (outputting) to the Base Register when the lines are defined as inputs will have no affect on the port. Table 5 shows the functions of the registers and their pinouts.

The five lines of the Status Register can only be used as inputs. The four lines of the Control Register can be used as inputs or outputs. The Control Register can be used as inputs by writing (outputting) a byte with the following bit pattern “xxxx0100” (4h) to the Control Register where “x” is a don’t care. Caution should be taken to insure bits 4 and 5 remain in the desired state (See Notes 2 and 3). The states of these lines can be determined by reading (inputting) the Control Register. The lines of the Control Register can be used as outputs by writing (outputting) to the Control Register.

Table 5 - Register Functions and Pinouts

BIT	Base (378H)		Status (379H)		Control (37AH)	
	OUTPUT	**INPUT**	**OUTPUT**	**INPUT**	**OUTPUT**	**INPUT**
0	2	2	X	X	1	1
1	3	3	X	X	14	14
2	4	4	X	X	16	16
3	5	5	X	15	17	17
4	6	6	X	13	See Note 2	See Note2
5	7	7	X	12	See Note 3	See Note 3
6	8	8	X	10	X	X
7	9	9	X	11	X	X

NOTE 1: An "X" means no connection to any DB-25 pins.

NOTE 2: Bit 4 of the Control Register (37AH) as an output is used to control IRQ7. When this bit is high, IRQ7 is enabled and when this bit is low, IRQ7 is disabled. As an input this reads the status of the Interrupt Enable.

NOTE 3: This bit is used to control the direction of the Base Register (378H). Outputting a “1” to this bit defines the lines as inputs. Outputting a “0”, which is default, to this bit defines the lines as outputs.

B&B Electronics -- PO Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105

Appendix A

SW1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**	**X**
Addr.:	**A9**	**A8**	**A7**	**A6**	**A5**	**A4**	**A3**	**A2**	**A1**	**A0**
Weight:	**2**	**1**	**8**	**4**	**2**	**1**	**8**	**4**	**2**	**1**
000	0	0	0	0	0	0	0	0	0	0
004	0	0	0	0	0	0	0	1	0	0
008	0	0	0	0	0	0	1	0	0	0
00C	0	0	0	0	0	0	1	1	0	0
010	0	0	0	0	0	1	0	0	0	0
014	0	0	0	0	0	1	0	1	0	0
018	0	0	0	0	0	1	1	0	0	0
01C	0	0	0	0	0	1	1	1	0	0
020	0	0	0	0	1	0	0	0	0	0
024	0	0	0	0	1	0	0	1	0	0
028	0	0	0	0	1	0	1	0	0	0
02C	0	0	0	0	1	0	1	1	0	0
030	0	0	0	0	1	1	0	0	0	0
034	0	0	0	0	1	1	0	1	0	0
038	0	0	0	0	1	1	1	0	0	0
03C	0	0	0	0	1	1	1	1	0	0
040	0	0	0	1	0	0	0	0	0	0
044	0	0	0	1	0	0	0	1	0	0
048	0	0	0	1	0	0	1	0	0	0
04C	0	0	0	1	0	0	1	1	0	0
050	0	0	0	1	0	1	0	0	0	0
054	0	0	0	1	0	1	0	1	0	0
058	0	0	0	1	0	1	1	0	0	0
05C	0	0	0	1	0	1	1	1	0	0
060	0	0	0	1	1	0	0	0	0	0
064	0	0	0	1	1	0	0	1	0	0
068	0	0	0	1	1	0	1	0	0	0
06C	0	0	0	1	1	0	1	1	0	0
070	0	0	0	1	1	1	0	0	0	0
074	0	0	0	1	1	1	0	1	0	0
078	0	0	0	1	1	1	1	0	0	0
07C	0	0	0	1	1	1	1	1	0	0

SW1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**	**X**
Addr.:	**A9**	**A8**	**A7**	**A6**	**A5**	**A4**	**A3**	**A2**	**A1**	**A0**
Weight:	**2**	**1**	**8**	**4**	**2**	**1**	**8**	**4**	**2**	**1**
080	0	0	1	0	0	0	0	0	0	0
084	0	0	1	0	0	0	0	1	0	0
088	0	0	1	0	0	0	1	0	0	0
08C	0	0	1	0	0	0	1	1	0	0
090	0	0	1	0	0	1	0	0	0	0
094	0	0	1	0	0	1	0	1	0	0
098	0	0	1	0	0	1	1	0	0	0
09C	0	0	1	0	0	1	1	1	0	0
0A0	0	0	1	0	1	0	0	0	0	0
0A4	0	0	1	0	1	0	0	1	0	0
0A8	0	0	1	0	1	0	1	1	0	0
0AC	0	0	1	0	1	0	1	1	0	0
0B0	0	0	1	0	1	1	0	0	0	0
0B4	0	0	1	0	1	1	0	1	0	0
0B8	0	0	1	0	1	1	1	0	0	0
0BC	0	0	1	0	1	1	1	1	0	0
0C0	0	0	1	1	0	0	0	0	0	0
0C4	0	0	1	1	0	0	0	1	0	0
0C8	0	0	1	1	0	0	1	0	0	0
0CC	0	0	1	1	0	0	1	1	0	0
0D0	0	0	1	1	0	1	0	0	0	0
0D4	0	0	1	1	0	1	0	1	0	0
0D8	0	0	1	1	0	1	1	0	0	0
0DC	0	0	1	1	0	1	1	1	0	0
0E0	0	0	1	1	1	0	0	0	0	0
0E4	0	0	1	1	1	0	0	1	0	0
0E8	0	0	1	1	1	0	1	0	0	0
0EC	0	0	1	1	1	0	1	1	0	0
0F0	0	0	1	1	1	1	0	0	0	0
0F4	0	0	1	1	1	1	0	1	0	0
0F8	0	0	1	1	1	1	1	0	0	0
0FC	0	0	1	1	1	1	1	1	0	0

B&B Electronics -- PO Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105

SW1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**	**X**
Addr.:	**A9**	**A8**	**A7**	**A6**	**A5**	**A4**	**A3**	**A2**	**A1**	**A0**
Weight:	**2**	**1**	**8**	**4**	**2**	**1**	**8**	**4**	**2**	**1**
100	0	1	0	0	0	0	0	0	0	0
104	0	1	0	0	0	0	0	1	0	0
108	0	1	0	0	0	0	1	0	0	0
10C	0	1	0	0	0	0	1	1	0	0
110	0	1	0	0	0	1	0	0	0	0
114	0	1	0	0	0	1	0	1	0	0
118	0	1	0	0	0	1	1	0	0	0
11C	0	1	0	0	0	1	1	1	0	0
120	0	1	0	0	1	0	0	0	0	0
124	0	1	0	0	1	0	0	1	0	0
128	0	1	0	0	1	0	1	0	0	0
12C	0	1	0	0	1	0	1	1	0	0
130	0	1	0	0	1	1	0	0	0	0
134	0	1	0	0	1	1	0	1	0	0
138	0	1	0	0	1	1	1	0	0	0
13C	0	1	0	0	1	1	1	1	0	0
140	0	1	0	1	0	0	0	0	0	0
144	0	1	0	1	0	0	0	1	0	0
148	0	1	0	1	0	0	1	0	0	0
14C	0	1	0	1	0	0	1	1	0	0
150	0	1	0	1	0	1	0	0	0	0
154	0	1	0	1	0	1	0	1	0	0
158	0	1	0	1	0	1	1	0	0	0
15C	0	1	0	1	0	1	1	1	0	0
160	0	1	0	1	1	0	0	0	0	0
164	0	1	0	1	1	0	0	1	0	0
168	0	1	0	1	1	0	1	0	0	0
16C	0	1	0	1	1	0	1	1	0	0
170	0	1	0	1	1	1	0	0	0	0
174	0	1	0	1	1	1	0	1	0	0
178	0	1	0	1	1	1	1	0	0	0
17C	0	1	0	1	1	1	1	1	0	0

SW1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**	**X**
Addr.:	**A9**	**A8**	**A7**	**A6**	**A5**	**A4**	**A3**	**A2**	**A1**	**A0**
Weight:	**2**	**1**	**8**	**4**	**2**	**1**	**8**	**4**	**2**	**1**
180	0	1	1	0	0	0	0	0	0	0
184	0	1	1	0	0	0	0	1	0	0
188	0	1	1	0	0	0	1	0	0	0
18C	0	1	1	0	0	0	1	1	0	0
190	0	1	1	0	0	1	0	0	0	0
194	0	1	1	0	0	1	0	1	0	0
198	0	1	1	0	0	1	1	0	0	0
19C	0	1	1	0	0	1	1	1	0	0
1A0	0	1	1	0	1	0	0	0	0	0
1A4	0	1	1	0	1	0	0	1	0	0
1A8	0	1	1	0	1	0	1	0	0	0
1AC	0	1	1	0	1	0	1	1	0	0
1B0	0	1	1	0	1	1	0	0	0	0
1B4	0	1	1	0	1	1	0	1	0	0
1B8	0	1	1	0	1	1	1	0	0	0
1BC	0	1	1	0	1	1	1	1	0	0
1C0	0	1	1	1	0	0	0	0	0	0
1C4	0	1	1	1	0	0	0	1	0	0
1C8	0	1	1	1	0	0	1	0	0	0
1CC	0	1	1	1	0	0	1	1	0	0
1D0	0	1	1	1	0	1	0	0	0	0
1D4	0	1	1	1	0	1	0	1	0	0
1D8	0	1	1	1	0	1	1	0	0	0
1DC	0	1	1	1	0	1	1	1	0	0
1E0	0	1	1	1	1	0	0	0	0	0
1E4	0	1	1	1	1	0	0	1	0	0
1E8	0	1	1	1	1	0	1	0	0	0
1EC	0	1	1	1	1	0	1	1	0	0
1F0	0	1	1	1	1	1	0	0	0	0
1F4	0	1	1	1	1	1	0	1	0	0
1F8	0	1	1	1	1	1	1	0	0	0
1FC	0	1	1	1	1	1	1	1	0	0

B&B Electronics -- PO Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105

SW1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**	**X**
Addr.:	**A9**	**A8**	**A7**	**A6**	**A5**	**A4**	**A3**	**A2**	**A1**	**A0**
Weight:	**2**	**1**	**8**	**4**	**2**	**1**	**8**	**4**	**2**	**1**
200	1	0	0	0	0	0	0	0	0	0
204	1	0	0	0	0	0	0	1	0	0
208	1	0	0	0	0	0	1	0	0	0
20C	1	0	0	0	0	0	1	1	0	0
210	1	0	0	0	0	1	0	0	0	0
214	1	0	0	0	0	1	0	1	0	0
218	1	0	0	0	0	1	1	0	0	0
21C	1	0	0	0	0	1	1	1	0	0
220	1	0	0	0	1	0	0	0	0	0
224	1	0	0	0	1	0	0	1	0	0
228	1	0	0	0	1	0	1	0	0	0
22C	1	0	0	0	1	0	1	1	0	0
230	1	0	0	0	1	1	0	0	0	0
234	1	0	0	0	1	1	0	1	0	0
238	1	0	0	0	1	1	1	0	0	0
23C	1	0	0	0	1	1	1	1	0	0
240	1	0	0	1	0	0	0	0	0	0
244	1	0	0	1	0	0	0	1	0	0
248	1	0	0	1	0	0	1	0	0	0
24C	1	0	0	1	0	0	1	1	0	0
250	1	0	0	1	0	1	0	0	0	0
254	1	0	0	1	0	1	0	1	0	0
258	1	0	0	1	0	1	1	0	0	0
25C	1	0	0	1	0	1	1	1	0	0
260	1	0	0	1	1	0	0	0	0	0
264	1	0	0	1	1	0	0	1	0	0
268	1	0	0	1	1	0	1	0	0	0
26C	1	0	0	1	1	0	1	1	0	0
270	1	0	0	1	1	1	0	0	0	0
274	1	0	0	1	1	1	0	1	0	0
278*	1	0	0	1	1	1	1	0	0	0
27C	1	0	0	1	1	1	1	1	0	0

SW1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**	**X**
Addr.:	**A9**	**A8**	**A7**	**A6**	**A5**	**A4**	**A3**	**A2**	**A1**	**A0**
Weight:	**2**	**1**	**8**	**4**	**2**	**1**	**8**	**4**	**2**	**1**
280	1	0	1	0	0	0	0	0	0	0
284	1	0	1	0	0	0	0	1	0	0
288	1	0	1	0	0	0	1	0	0	0
28C	1	0	1	0	0	0	1	1	0	0
290	1	0	1	0	0	1	0	0	0	0
294	1	0	1	0	0	1	0	1	0	0
298	1	0	1	0	0	1	1	0	0	0
29C	1	0	1	0	0	1	1	1	0	0
2A0	1	0	1	0	1	0	0	0	0	0
2A4	1	0	1	0	1	0	0	1	0	0
2A8	1	0	1	0	1	0	1	0	0	0
2AC	1	0	1	0	1	0	1	1	0	0
2B0	1	0	1	0	1	1	0	0	0	0
2B4	1	0	1	0	1	1	0	1	0	0
2B8	1	0	1	0	1	1	1	0	0	0
2BC	1	0	1	0	1	1	1	1	0	0
2C0	1	0	1	1	0	0	0	0	0	0
2C4	1	0	1	1	0	0	0	1	0	0
2C8	1	0	1	1	0	0	1	0	0	0
2CC	1	0	1	1	0	0	1	1	0	0
2D0	1	0	1	1	0	1	0	0	0	0
2D4	1	0	1	1	0	1	0	1	0	0
2D8	1	0	1	1	0	1	1	0	0	0
2DC	1	0	1	1	0	1	1	1	0	0
2E0	1	0	1	1	1	0	0	0	0	0
2E4	1	0	1	1	1	0	0	1	0	0
2E8	1	0	1	1	1	0	1	0	0	0
2EC	1	0	1	1	1	0	1	1	0	0
2F0	1	0	1	1	1	1	0	0	0	0
2F4	1	0	1	1	1	1	0	1	0	0
2F8	1	0	1	1	1	1	1	0	0	0
2FC	1	0	1	1	1	1	1	1	0	0

B&B Electronics -- PO Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105

SW1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**	**X**
Addr.:	**A9**	**A8**	**A7**	**A6**	**A5**	**A4**	**A3**	**A2**	**A1**	**A0**
Weight:	**2**	**1**	**8**	**4**	**2**	**1**	**8**	**4**	**2**	**1**
300	1	1	0	0	0	0	0	0	0	0
304	1	1	0	0	0	0	0	1	0	0
308	1	1	0	0	0	0	1	0	0	0
30C	1	1	0	0	0	0	1	1	0	0
310	1	1	0	0	0	1	0	0	0	0
314	1	1	0	0	0	1	0	1	0	0
318	1	1	0	0	0	1	1	0	0	0
31C	1	1	0	0	0	1	1	1	0	0
320	1	1	0	0	1	0	0	0	0	0
324	1	1	0	0	1	0	0	1	0	0
328	1	1	0	0	1	0	1	0	0	0
32C	1	1	0	0	1	0	1	1	0	0
330	1	1	0	0	1	1	0	0	0	0
334	1	1	0	0	1	1	0	1	0	0
338	1	1	0	0	1	1	1	0	0	0
33C	1	1	0	0	1	1	1	1	0	0
340	1	1	0	1	0	0	0	0	0	0
344	1	1	0	1	0	0	0	1	0	0
348	1	1	0	1	0	0	1	0	0	0
34C	1	1	0	1	0	0	1	1	0	0
350	1	1	0	1	0	1	0	0	0	0
354	1	1	0	1	0	1	0	1	0	0
358	1	1	0	1	0	1	1	0	0	0
35C	1	1	0	1	0	1	1	1	0	0
360	1	1	0	1	1	0	0	0	0	0
364	1	1	0	1	1	0	0	1	0	0
368	1	1	0	1	1	0	1	0	0	0
36C	1	1	0	1	1	0	1	1	0	0
370	1	1	0	1	1	1	0	0	0	0
374	1	1	0	1	1	1	0	1	0	0
378*	1	1	0	1	1	1	1	0	0	0
37C	1	1	0	1	1	1	1	1	0	0

SW1:	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**X**	**X**
Addr.:	**A9**	**A8**	**A7**	**A6**	**A5**	**A4**	**A3**	**A2**	**A1**	**A0**
Weight:	**2**	**1**	**8**	**4**	**2**	**1**	**8**	**4**	**2**	**1**
380	1	1	1	0	0	0	0	0	0	0
384	1	1	1	0	0	0	0	1	0	0
388	1	1	1	0	0	0	1	0	0	0
38C	1	1	1	0	0	0	1	1	0	0
390	1	1	1	0	0	1	0	0	0	0
394	1	1	1	0	0	1	0	1	0	0
398	1	1	1	0	0	1	1	0	0	0
39C	1	1	1	0	0	1	1	1	0	0
3A0	1	1	1	0	1	0	0	0	0	0
3A4	1	1	1	0	1	0	0	1	0	0
3A8	1	1	1	0	1	0	1	0	0	0
3AC	1	1	1	0	1	0	1	1	0	0
3B0	1	1	1	0	1	1	0	0	0	0
3B4	1	1	1	0	1	1	0	1	0	0
3B8	1	1	1	0	1	1	1	0	0	0
3BC*	1	1	1	0	1	1	1	1	0	0
3C0	1	1	1	1	0	0	0	0	0	0
3C4	1	1	1	1	0	0	0	1	0	0
3C8	1	1	1	1	0	0	1	0	0	0
3CC	1	1	1	1	0	0	1	1	0	0
3D0	1	1	1	1	0	1	0	0	0	0
3D4	1	1	1	1	0	1	0	1	0	0
3D8	1	1	1	1	0	1	1	0	0	0
3DC	1	1	1	1	0	1	1	1	0	0
3E0	1	1	1	1	1	0	0	0	0	0
3E4	1	1	1	1	1	0	0	1	0	0
3E8	1	1	1	1	1	0	1	0	0	0
3EC	1	1	1	1	1	0	1	1	0	0
3F0	1	1	1	1	1	1	0	0	0	0
3F4	1	1	1	1	1	1	0	1	0	0
3F8	1	1	1	1	1	1	1	0	0	0
3FC	1	1	1	1	1	1	1	1	0	0

B&B Electronics -- PO Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105

NOTE 1: The addresses marked with an "*" are the addresses normally associated with LPT1 and LPT2. 378 (and sometimes 3BCh) is used as LPT1 and 278h is usually used with LPT2.

NOTE 2: The last two bits (A0 and A1), marked with an "X" on SW1, are not used.

NOTE 3: A "1" indicates that the switch is ON and a "0" indicates that the switch is OFF.

B&B Electronics -- PO Box 1040 -- Ottawa, IL 61350
PH (815) 433-5100 -- FAX (815) 433-5105